

CLAIMS:

1. Solar power system equipped with
- a solar panel comprising
 - a first output terminal and a second output terminal,
 - a series arrangement of photovoltaic cells arranged between the
- 5 output terminals,
- ground fault detection means comprising
 - a detection circuit equipped with a series arrangement SA comprising
 - a first and a second ohmic resistor and connecting the first and second output
- 10 terminals,
- a first signal generator for generating a signal S1 that represents the voltage difference ΔV between a common terminal of the first and the second ohmic resistor and the second output terminal,
 - a safety circuit coupled to the ground fault detection means for changing the
- 15 operating state of the solar power system in dependency of the signal S1,
- characterized in that the ground fault detection means is further equipped with
- a third ohmic resistor comprised in the series arrangement SA,
 - a switching circuit part comprising a switching element and shunting the
- 20 third ohmic resistor,
- a control circuit coupled to a control electrode of the switching element for controlling the conductive state of the switching element, and
 - a second signal generator coupled between the first signal generator and the
- 25 safety circuit for generating a second signal S2 representing leakage resistance between the solar power system and its environment.
2. Solar power system according to claim 1, wherein the solar power system further comprises a DC-AC-converter coupled to the first and second output terminal.
3. Solar power system according to claim 1 or 2, wherein the third ohmic resistor is coupled between the second output terminal and the second ohmic resistor.

4. Solar power system according to claim 1, 2 or 3, wherein the second signal generator comprises a microcontroller.
- 5 5. Solar power system according to claim 1-4, wherein the solar power system comprises a housing containing the ground fault detection means and the safety circuit.
6. Solar power system according to claim 2 and 5, wherein the housing further contains the DC-AC-converter.